

abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments

In the Claims:

Please cancel claims 35-59, 61, 81-84, 86-100, 102-118, 120-149, 151-166, 168, 169, 176-189, 191-202, 205-209, 211-222, 224-269, and 272-286 without prejudice or disclaimer.

Please add the following claims:

287. (New) An isolated polynucleotide comprising a nucleic acid which encodes a polypeptide comprising an amino acid sequence at least 90% identical to amino acids 1 to 360 of SEQ ID NO:2;

wherein said polypeptide binds TNF-related apoptosis-inducing ligand (TRAIL).

288. (New) The polynucleotide of claim 287, wherein said amino acid sequence is at least 95% identical to amino acids 1 to 360 of SEQ ID NO:2.

289. (New) The polynucleotide of claim 287, wherein said polypeptide induces apoptosis.

290. (New) The polynucleotide of claim 287, further comprising a heterologous polynucleotide.

291. (New) The polynucleotide of claim 290, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

292. (New) The polynucleotide of claim 291, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

293. (New) The polynucleotide of claim 292, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

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294. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 287 into a vector.

295. (New) A vector comprising the polynucleotide of claim 287.

296. (New) The vector of claim 295, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

297. (New) A host cell comprising the polynucleotide of claim 287.

298. (New) The host cell of claim 297, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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299. (New) A method of producing a polypeptide comprising culturing the host cell of claim 297 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

300. (New) An isolated polynucleotide comprising a first nucleic acid at least 90% identical to a second nucleic acid encoding amino acids 1 to 360 of SEQ ID NO:2; wherein said first nucleic acid hybridizes to the complement of nucleotides 133 to 1362 of SEQ ID NO:1 under conditions comprising:

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(a) incubating at 42°C in a solution consisting of 50% formamide, 5x SSC, 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA; and

(b) washing at 65°C in a solution consisting of 0.1x SSC.

301. (New) The polynucleotide of claim 300, wherein said first nucleic acid is at least 95% identical to said second nucleic acid.

302. (New) The polynucleotide of claim 300, wherein said second nucleic acid encodes amino acids -50 to 360 of SEQ ID NO:2.

303. (New) The polynucleotide of claim 302, wherein said second nucleic acid encodes amino acids -51 to 360 of SEQ ID NO:2.

304. (New) The polynucleotide of claim 303, wherein said second nucleic acid is SEQ ID NO:1.

305. (New) The polynucleotide of claim 300, wherein said first nucleic acid encodes a polypeptide which binds TRAIL.

306. (New) The polynucleotide of claim 300, wherein said first nucleic acid encodes a polypeptide which induces apoptosis.

307. (New) The polynucleotide of claim 300, further comprising a heterologous polynucleotide.

308. (New) The polynucleotide of claim 307, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

309. (New) The polynucleotide of claim 308, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

310. (New) The polynucleotide of claim 309, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

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311. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 300 into a vector.

312. (New) A vector comprising the polynucleotide of claim 300.

313. (New) The vector of claim 312, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

314. (New) A host cell comprising the polynucleotide of claim 300.

315. (New) The host cell of claim 314, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

316. (New) A host cell comprising the polynucleotide of claim 305.

317. (New) The host cell of claim 316, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

Sub G2 > 318. (New) A method of producing a polypeptide comprising culturing the host cell of claim 316 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

319. (New) An isolated polynucleotide comprising a nucleic acid which encodes amino acids 1 to 360 of SEQ ID NO:2.

320. (New) The polynucleotide of claim 319, which comprises nucleotides 283 to 1362 of SEQ ID NO:1.

321. (New) The polynucleotide of claim 319, wherein said nucleic acid encodes amino acids -50 to 360 of SEQ ID NO:2.

322. (New) The polynucleotide of claim 321, which comprises nucleotides 133 to 1362 of SEQ ID NO:1.

323. (New) The polynucleotide of claim 321, wherein said nucleic acid encodes amino acids -51 to 360 of SEQ ID NO:2.

324. (New) The polynucleotide of claim 323, which comprises nucleotides 130 to 1362 of SEQ ID NO:1.

325. (New) The polynucleotide of claim 323, which comprises SEQ ID NO:1.

326. (New) The polynucleotide of claim 319, which encodes a polypeptide which binds TRAIL.

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327. (New) The polynucleotide of claim 319, which encodes a polypeptide which induces apoptosis.

328. (New) The polynucleotide of claim 319, further comprising a heterologous polynucleotide.

329. (New) The polynucleotide of claim 328, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

330. (New) The polynucleotide of claim 329, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

331. (New) The polynucleotide of claim 330, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

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332. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 319 into a vector.

333. (New) A vector comprising the polynucleotide of claim 319.

334. (New) The vector of claim 333, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

335. (New) A host cell comprising the polynucleotide of claim 319.

336. (New) The host cell of claim 335, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

337. (New) A host cell comprising the polynucleotide of claim 326.

338. (New) The host cell of claim 337, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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Cont. Sub G3 339. (New) A method of producing a polypeptide comprising culturing the host cell of claim 337 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

340. (New) An isolated polynucleotide comprising a first nucleic acid at least 90% identical to a second nucleic acid encoding amino acids 134 to 157 of SEQ ID NO:2;

wherein said first nucleic acid hybridizes to the complement of nucleotides 130 to 1362 of SEQ ID NO:1 under conditions comprising:

- (a) incubating overnight at 42°C in a solution consisting of 50% formamide, 5x SSC, 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA; and
- (b) washing at 65°C in a solution consisting of 0.1x SSC.

341. (New) The polynucleotide of claim 340, wherein said first nucleic acid is at least 95% identical to said second nucleic acid.

342. (New) The polynucleotide of claim 340, further comprising a heterologous polynucleotide.

343. (New) The polynucleotide of claim 342, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

344. (New) The polynucleotide of claim 343, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

345. (New) The polynucleotide of claim 344, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

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346. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 340 into a vector.

347. (New) A vector comprising the polynucleotide of claim 340.

348. (New) The vector of claim 347, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

349. (New) A host cell comprising the polynucleotide of claim 340.

350. (New) The host cell of claim 349, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

351. (New) An isolated polynucleotide comprising a nucleic acid which encodes amino acids 134 to 157 of SEQ ID NO:2.

352. (New) The polynucleotide of claim 351, which comprises nucleotides 682 to 753 of SEQ ID NO:1.

353. (New) The polynucleotide of claim 351, further comprising a heterologous polynucleotide.

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354. (New) The polynucleotide of claim 353, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

355. (New) The polynucleotide of claim 354, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

356. (New) The polynucleotide of claim 355, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

357. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 351 into a vector.

358. (New) A vector comprising the polynucleotide of claim 351.

359. (New) The vector of claim 358, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

360. (New) A host cell comprising the polynucleotide of claim 351.

361. (New) The host cell of claim 360, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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362. (New) An isolated polynucleotide comprising a nucleic acid which encodes a polypeptide fragment at least 90% identical to amino acids 158 to 360 of SEQ ID NO:2;
wherein said polypeptide fragment is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

363. (New) The polynucleotide of claim 362, wherein said polypeptide fragment is at least 95% identical to amino acids 158 to 360 of SEQ ID NO:2.

364. (New) The polynucleotide of claim 362, further comprising a heterologous polynucleotide.

365. (New) The polynucleotide of claim 364, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

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366. (New) The polynucleotide of claim 365, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

367. (New) The polynucleotide of claim 366, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

368. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 362 into a vector.

369. (New) A vector comprising the polynucleotide of claim 362.

370. (New) The vector of claim 369, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

371. (New) A host cell comprising the polynucleotide of claim 362.

372. (New) The host cell of claim 371, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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373. (New) A method of producing a polypeptide comprising culturing the host cell of claim 371 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

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374. (New) An isolated polynucleotide comprising a first nucleic acid at least 90% identical to a second nucleic acid encoding amino acids 158 to 360 of SEQ ID NO:2;

wherein said first nucleic acid hybridizes to the complement of nucleotides 133 to 1362 of SEQ ID NO:1 under conditions comprising:

(a) incubating at 42°C in a solution consisting of 50% formamide, 5x SSC, 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA; and

(b) washing at 65°C in a solution consisting of 0.1x SSC.

375. (New) The polynucleotide of claim 374, wherein said first nucleic acid is at least 95% identical to said second nucleic acid.

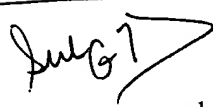
Sub G6  376. (New) The polynucleotide of claim 374, wherein said first nucleic acid encodes a polypeptide fragment which is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

377. (New) The polynucleotide of claim 374, further comprising a heterologous polynucleotide.

378. (New) The polynucleotide of claim 377, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

E1 Cont 379. (New) The polynucleotide of claim 378, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

380. (New) The polynucleotide of claim 379, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

Sub G7  381. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 96 into a vector.

382. (New) A vector comprising the polynucleotide of claim 374.

383. (New) The vector of claim 382, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

384. (New) A host cell comprising the polynucleotide of claim 374.

385. (New) The host cell of claim 384, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

386. (New) A host cell comprising the polynucleotide of claim 376.

387. (New) The host cell of claim 386, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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388. (New) A method of producing a polypeptide comprising culturing the host cell of claim 386 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

389. (New) An isolated polynucleotide comprising a nucleic acid which encodes amino acids 158 to 360 of SEQ ID NO:2.

390. (New) The polynucleotide of claim 389, which comprises nucleotides 754 to 1362 of SEQ ID NO:1.

Int G9 391. (New) The polynucleotide of claim 389, which encodes a polypeptide fragment which is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

392. (New) The polynucleotide of claim 389, further comprising a heterologous polynucleotide.

393. (New) The polynucleotide of claim 392, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

E1 cont. 394. (New) The polynucleotide of claim 393, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

395. (New) The polynucleotide of claim 394, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

396. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 389 into a vector.

397. (New) A vector comprising the polynucleotide of claim 389.

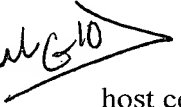
398. (New) The vector of claim 397, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

399. (New) A host cell comprising the polynucleotide of claim 389.

400. (New) The host cell of claim 399, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

401. (New) A host cell comprising the polynucleotide of claim 391.

402. (New) The host cell of claim 401, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

Sub 610  403. (New) A method of producing a polypeptide comprising culturing the host cell of claim 401 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

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404. (New) An isolated polynucleotide comprising a nucleic acid which encodes a polypeptide fragment at least 90% identical to amino acids 273 to 340 of SEQ ID NO:2;

wherein said polypeptide fragment is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

405. (New) The polynucleotide of claim 404, wherein said polypeptide is at least 95% identical to amino acids 273 to 340 of SEQ ID NO:2.

406. (New) The polynucleotide of claim 404, further comprising a heterologous polynucleotide.

407. (New) The polynucleotide of claim 406, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

408. (New) The polynucleotide of claim 407, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

409. (New) The polynucleotide of claim 408, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

410. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 404 into a vector.

411. (New) A vector comprising the polynucleotide of claim 404.

412. (New) The vector of claim 411, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

413. (New) A host cell comprising the polynucleotide of claim 404.

414. (New) The host cell of claim 413, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

Sub G11 415. (New) A method of producing a polypeptide comprising culturing the host cell of claim 413 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

416. (New) An isolated polynucleotide comprising a first nucleic acid at least 90% identical to a second nucleic acid encoding amino acids 273 to 340 of SEQ ID NO:2;

wherein said first nucleic acid hybridizes to the complement of nucleotides 133 to 1362 of SEQ ID NO:1 under conditions comprising:

E1 cont. (a) incubating at 42°C in a solution consisting of 50% formamide, 5x SSC, 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA; and

(b) washing at 65°C in a solution consisting of 0.1x SSC.

417. (New) The polynucleotide of claim 416, wherein said first nucleic acid is at least 95% identical to said second nucleic acid.

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418. (New) The polynucleotide of claim 416, wherein said first nucleic acid encodes a polypeptide fragment which is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

419. (New) The polynucleotide of claim 416, further comprising a heterologous polynucleotide.

420. (New) The polynucleotide of claim 419, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

421. (New) The polynucleotide of claim 420, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

422. (New) The polynucleotide of claim 421, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

423. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 416 into a vector.

424. (New) A vector comprising the polynucleotide of claim 416.

425. (New) The vector of claim 424, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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426. (New) A host cell comprising the polynucleotide of claim 416.

427. (New) The host cell of claim 426, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

428. (New) A host cell comprising the polynucleotide of claim 418.

429. (New) The host cell of claim 428, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

Sub G13 430. (New) A method of producing a polypeptide comprising culturing the host cell of claim 428 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

E1 Cont. 431. (New) An isolated polynucleotide comprising a nucleic acid which encodes amino acids 273 to 340 of SEQ ID NO:2.

432. (New) The polynucleotide of claim 431, which comprises nucleotides 1099 to 1302 of SEQ ID NO:1.

Sub G14 433. (New) The polynucleotide of claim 431, wherein said nucleic acid encodes a polypeptide fragment which is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

434. (New) The polynucleotide of claim 431, further comprising a heterologous polynucleotide.

435. (New) The polynucleotide of claim 434, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

436. (New) The polynucleotide of claim 435, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

437. (New) The polynucleotide of claim 436, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

438. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 431 into a vector.

439. (New) A vector comprising the polynucleotide of claim 431.

440. (New) The vector of claim 439, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

441. (New) A host cell comprising the polynucleotide of claim 431.

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442. (New) The host cell of claim 441, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

443. (New) A host cell comprising the polynucleotide of claim 433.

444. (New) The host cell of claim 443, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

Sub 15 445. (New) A method of producing a polypeptide comprising culturing the host cell of claim 443 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

446. (New) An isolated polynucleotide comprising a nucleic acid which encodes a polypeptide comprising an amino acid sequence at least 90% identical to the mature amino acid sequence encoded by the cDNA clone in ATCC Deposit No. 97920; wherein said polypeptide binds TRAIL.

E1 Cont. 447. (New) The polynucleotide of claim 446, wherein said amino acid sequence is at least 95% identical to the mature amino acid sequence encoded by the cDNA clone in ATCC Deposit No. 97920.

448. (New) The polynucleotide of claim 446, wherein said polypeptide induces apoptosis.

449. (New) The polynucleotide of claim 446, further comprising a heterologous polynucleotide.

450. (New) The polynucleotide of claim 449, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

451. (New) The polynucleotide of claim 450, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

452. (New) The polynucleotide of claim 451, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

453. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 446 into a vector.

454. (New) A vector comprising the polynucleotide of claim 446.

455. (New) The vector of claim 454, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

456. (New) A host cell comprising the polynucleotide of claim 446.

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457. (New) The host cell of claim 456, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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458. (New) A method of producing a polypeptide comprising culturing the host cell of claim 456 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

459. (New) An isolated polynucleotide comprising a first nucleic acid at least 90% identical to a second nucleic acid encoding the mature amino acid sequence encoded by the cDNA clone in ATCC Deposit No. 97920;

wherein said first nucleic acid hybridizes to the complement of nucleotides 133 to 1362 of SEQ ID NO:1 under conditions comprising:

(a) incubating at 42°C in a solution consisting of 50% formamide, 5x SSC, 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA; and

(b) washing at 65°C in a solution consisting of 0.1x SSC.

460. (New) The polynucleotide of claim 459, wherein said first nucleic acid is at least 95% identical to said second nucleic acid.

461. (New) The polynucleotide of claim 459, wherein said second nucleic acid encodes the complete amino acid sequence encoded by the cDNA clone in ATCC Deposit No. 97920.

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462. (New) The polynucleotide of claim 459, wherein said first nucleic acid encodes a polypeptide which binds TRAIL.

463. (New) The polynucleotide of claim 459, wherein said first nucleic acid encodes a polypeptide which induces apoptosis.

464. (New) The polynucleotide of claim 459, further comprising a heterologous polynucleotide.

465. (New) The polynucleotide of claim 464, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

466. (New) The polynucleotide of claim 465, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

467. (New) The polynucleotide of claim 466, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

468. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 459 into a vector.

469. (New) A vector comprising the polynucleotide of claim 459.

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470. (New) The vector of claim 469, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

471. (New) A host cell comprising the polynucleotide of claim 459.

472. (New) The host cell of claim 471, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

473. (New) A host cell comprising the polynucleotide of claim 462.

474. (New) The host cell of claim 473, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

E1 Cont. Sub G17 475. (New) A method of producing a polypeptide comprising culturing the host cell of claim 473 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

476. (New) An isolated polynucleotide comprising a nucleic acid which encodes the mature amino acid sequence encoded by the cDNA clone in ATCC Deposit No. 97920.

477. (New) The polynucleotide of claim 476, wherein said nucleic acid encodes the complete amino acid sequence encoded by the cDNA clone in ATCC Deposit No. 97920.

478. (New) The polynucleotide of claim 476, wherein said nucleic acid encodes a polypeptide which binds TRAIL.

479. (New) The polynucleotide of claim 476, wherein said nucleic acid encodes a polypeptide which induces apoptosis.

480. (New) The polynucleotide of claim 476, further comprising a heterologous polynucleotide.

481. (New) The polynucleotide of claim 480, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

482. (New) The polynucleotide of claim 481, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

483. (New) The polynucleotide of claim 482, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

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484. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 476 into a vector.

485. (New) A vector comprising the polynucleotide of claim 476.

486. (New) The vector of claim 485, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

487. (New) A host cell comprising the polynucleotide of claim 476.

488. (New) The host cell of claim 487, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

489. (New) A host cell comprising the polynucleotide of claim 478.

490. (New) The host cell of claim 489, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

E1 Cont.

Sub G18 491. (New) A method of producing a polypeptide comprising culturing the host cell of claim 489 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

492. (New) An isolated polynucleotide comprising 30 contiguous nucleotides of nucleotides 754 to 1362 of SEQ ID NO:1;

wherein said polynucleotide encodes a polypeptide which binds an antibody with specificity for the polypeptide consisting of amino acids 1 to 360 of SEQ ID NO:2.

493. (New) The polynucleotide of claim 492, comprising 50 contiguous nucleotides of nucleotides 754 to 1362 of SEQ ID NO:1.

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494. (New) The polynucleotide of claim 492, which encodes a polypeptide fragment which is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

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495. (New) The polynucleotide of claim 492, further comprising a heterologous polynucleotide.

496. (New) The polynucleotide of claim 495, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

497. (New) The polynucleotide of claim 496, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

498. (New) The polynucleotide of claim 497, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

499. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 492 into a vector.

500. (New) A vector comprising the polynucleotide of claim 492.

501. (New) The vector of claim 500, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

502. (New) A host cell comprising the polynucleotide of claim 492.

503. (New) The host cell of claim 502, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

504. (New) A host cell comprising the polynucleotide of claim 494.

505. (New) The host cell of claim 503, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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506. (New) A method of producing a polypeptide comprising culturing the host cell of claim 502 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

507. (New) An isolated polynucleotide comprising a nucleic acid which encodes at least 50 contiguous amino acids of amino acids 1 to 360 of SEQ ID NO:2; wherein said at least 50 contiguous amino acids bind an antibody with specificity for the polypeptide consisting of amino acids 1 to 360 of SEQ ID NO:2.

508. (New) The polynucleotide of claim 507, further comprising a heterologous polynucleotide.

E1 Cont.
509. (New) The polynucleotide of claim 508, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

510. (New) The polynucleotide of claim 509, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

511. (New) The polynucleotide of claim 510, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

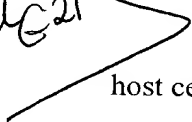
512. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 507 into a vector.

513. (New) A vector comprising the polynucleotide of claim 507.

514. (New) The vector of claim 513, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

515. (New) A host cell comprising the polynucleotide of claim 507.

516. (New) The host cell of claim 515, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

Sub 21  517. (New) A method of producing a polypeptide comprising culturing the host cell of claim 515 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

E1 Cont. 518. (New) An isolated polynucleotide which hybridizes to nucleotides 754 to 1362 of SEQ ID NO:1, or the complement thereof, under conditions comprising:

(a) incubating overnight at 42°C in a solution consisting of 50% formamide, 5x SSC, 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA; and

(b) washing at 65°C in a solution consisting of 0.1x SSC;
wherein said polynucleotide is at least 15 nucleotides in length.

519. (New) The polynucleotide of claim 518, wherein said nucleic acid is at least 30 nucleotides in length.

520. (New) The polynucleotide of claim 519, wherein said nucleic acid is at least 50 nucleotides in length.

521. (New) The polynucleotide of claim 520, wherein said nucleic acid is at least 150 nucleotides in length.

Sub 622 → 522. (New) The polynucleotide of claim 518, which hybridizes to the complement of nucleotides 754 to 1362 of SEQ ID NO:1, and which encodes a polypeptide fragment which is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

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Cont 523. (New) The polynucleotide of claim 518, further comprising a heterologous polynucleotide.

524. (New) The polynucleotide of claim 523, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

525. (New) The polynucleotide of claim 524, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

526. (New) The polynucleotide of claim 525, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

527. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 518 into a vector.

528. (New) A vector comprising the polynucleotide of claim 518.

529. (New) The vector of claim 528, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

530. (New) A host cell comprising the polynucleotide of claim 518.

531. (New) The host cell of claim 530, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

532. (New) A host cell comprising the polynucleotide of claim 522.

533. (New) The host cell of claim 532, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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G23

534. (New) A method of producing a polypeptide comprising culturing the host cell of claim 532 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

535. (New) An isolated polynucleotide comprising a first nucleic acid at least 90% identical to a second nucleic acid encoding at least 30 contiguous amino acids from 158 to 360 of SEQ ID NO:2;

wherein said first nucleic acid hybridizes to the complement of nucleotides 133 to 1362 of SEQ ID NO:1 under conditions comprising:

(a) incubating at 42°C in a solution consisting of 50% formamide, 5x SSC, 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA; and

(b) washing at 65°C in a solution consisting of 0.1x SSC.

536. (New) The polynucleotide of claim 535, wherein said first nucleic acid is at least 95% identical to said second nucleic acid.

537. (New) The polynucleotide of claim 536, wherein said first nucleic acid encodes at least 30 contiguous amino acids from 158 to 360 of SEQ ID NO:2.

538. (New) The polynucleotide of claim 536, wherein said second nucleic acid encodes at least 50 contiguous amino acids from 158 to 360 of SEQ ID NO:2.

E'
cont.

539. (New) The polynucleotide of claim 538, wherein said first nucleic acid encodes at least 50 contiguous amino acids from 158 to 360 of SEQ ID NO:2.

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540. (New) The polynucleotide of claim 535, wherein said first nucleic acid encodes a polypeptide fragment which is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

541. (New) The polynucleotide of claim 535, further comprising a heterologous polynucleotide.

542. (New) The polynucleotide of claim 541, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

E' cont.
543. (New) The polynucleotide of claim 542, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

544. (New) The polynucleotide of claim 543, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

545. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 535 into a vector.

546. (New) A vector comprising the polynucleotide of claim 535.

547. (New) The vector of claim 546, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

548. (New) A host cell comprising the polynucleotide of claim 535.

549. (New) The host cell of claim 548, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

550. (New) A host cell comprising the polynucleotide of claim 540.

551. (New) The host cell of claim 550, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

552. (New) A method of producing a polypeptide comprising culturing the host cell of claim 540 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

553. (New) An isolated polynucleotide comprising a nucleic acid which encodes a polypeptide comprising an amino acid sequence at least 90% identical to amino acids 1 to 133 of SEQ ID NO:2;

wherein said polypeptide binds TRAIL.

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Sub 625

554. (New) The polynucleotide of claim 553, wherein said amino acid sequence is at least 95% identical to amino acids 1 to 133 of SEQ ID NO:2.

555. (New) The polynucleotide of claim 553, further comprising a heterologous polynucleotide.

556. (New) The polynucleotide of claim 555, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

557. (New) The polynucleotide of claim 556, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

558. (New) The polynucleotide of claim 557, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

559. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 553 into a vector.

560. (New) A vector comprising the polynucleotide of claim 553.

561. (New) The vector of claim 560, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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Cont.

562. (New) A host cell comprising the polynucleotide of claim 553.

563. (New) The host cell of claim 562, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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564. (New) A method of producing a polypeptide comprising culturing the host cell of claim 562 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

565. (New) An isolated polynucleotide which encodes amino acids 1 to 133 of SEQ ID NO:2.

566. (New) The polynucleotide of claim 565, which comprises nucleotides 283 to 681 of SEQ ID NO:1.

E1 Cont.
567. (New) The polynucleotide of claim 565, wherein said nucleic acid encodes a polypeptide which binds TRAIL.

568. (New) The polynucleotide of claim 565, further comprising a heterologous polynucleotide.

569. (New) The polynucleotide of claim 568, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

570. (New) The polynucleotide of claim 569, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

571. (New) The polynucleotide of claim 570, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

572. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 565 into a vector.

573. (New) A vector comprising the polynucleotide of claim 565.

574. (New) The vector of claim 573, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

575. (New) A host cell comprising the polynucleotide of claim 565.

576. (New) The host cell of claim 575, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

577. (New) A host cell comprising the polynucleotide of claim 567.

578. (New) The host cell of claim 577, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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Sub-G27

579. (New) A method of producing a polypeptide comprising culturing the host cell of claim 577 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

580. (New) An isolated polynucleotide comprising a nucleic acid which encodes a protein comprising a polypeptide selected from the group consisting of:

- a polypeptide consisting of amino acids 11 to 59 of SEQ ID NO:2;
- a polypeptide consisting of amino acids 68 to 103 of SEQ ID NO:2;
- a polypeptide consisting of amino acids 173 to 220 of SEQ ID NO:2; and
- a polypeptide consisting of amino acids 224 to 319 of SEQ ID NO:2;

wherein said polypeptide binds an antibody with specificity for the polypeptide consisting of amino acids 1 to 360 of SEQ ID NO:2.

581. (New) The polynucleotide of claim 580, wherein said nucleic acid encodes amino acids 11 to 59 of SEQ ID NO:2.

582. (New) The polynucleotide of claim 580, wherein said nucleic acid encodes amino acids 68 to 103 of SEQ ID NO:2.

583. (New) The polynucleotide of claim 580, wherein said nucleic acid encodes amino acids 173 to 220 of SEQ ID NO:2.

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Cont.

584. (New) The polynucleotide of claim 580, wherein said nucleic acid encodes amino acids 224 to 319 of SEQ ID NO:2.

585. (New) The polynucleotide of claim 580, further comprising a heterologous polynucleotide.

586. (New) The polynucleotide of claim 585, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

587. (New) The polynucleotide of claim 586, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

588. (New) The polynucleotide of claim 587, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

589. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 580 into a vector.

590. (New) A vector comprising the polynucleotide of claim 580.

591. (New) The vector of claim 590, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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Cont

592. (New) A host cell comprising the polynucleotide of claim 580.

593. (New) The host cell of claim 592, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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594. (New) A method of producing a polypeptide comprising culturing the host cell of claim 592 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

595. (New) An isolated polynucleotide comprising a nucleic acid which hybridizes to the complement of nucleotides 284 to 1362 of SEQ ID NO:1 under conditions comprising:

(a) incubating overnight at 42°C in a solution consisting of 50% formamide, 5x SSC, 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA; and

(b) washing at 65°C in a solution consisting of 0.1x SSC;

wherein said nucleic acid encodes a polypeptide selected from the group consisting of:

a polypeptide which binds TRAIL, and

a polypeptide which induces apoptosis.

596. (New) The polynucleotide of claim 595, wherein said nucleic acid encodes a polypeptide which binds TRAIL.

597. (New) The polynucleotide of claim 595, wherein said nucleic acid encodes a polypeptide which induces apoptosis.

598. (New) The polynucleotide of claim 595, further comprising a heterologous polynucleotide.

599. (New) The polynucleotide of claim 598, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

600. (New) The polynucleotide of claim 599, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

601. (New) The polynucleotide of claim 600, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

602. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 595 into a vector.

603. (New) A vector comprising the polynucleotide of claim 595.

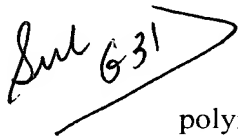
604. (New) The vector of claim 603, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

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cont.

612. (New) The polynucleotide of claim 611, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

613. (New) The polynucleotide of claim 612, wherein said heterologous polypeptide comprises an immunoglobulin Fc region.

614. (New) The polynucleotide of claim 613, wherein said immunoglobulin Fc region is a human immunoglobulin Fc region.

Sub 631  615. (New) A method of producing a vector that comprises inserting the polynucleotide of claim 606 into a vector.

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Cont 616. (New) A vector comprising the polynucleotide of claim 608.

617. (New) The vector of claim 616, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

618. (New) A host cell comprising the polynucleotide of claim 608.

619. (New) The host cell of claim 618, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

605. (New) A host cell comprising the polynucleotide of claim 595.

606. (New) The host cell of claim 605, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

Sub G29 607. (New) A method of producing a polypeptide comprising culturing the host cell of claim 604 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

608. (New) An isolated polynucleotide comprising a nucleic acid which encodes a polypeptide fragment comprising 50 contiguous amino acids within amino acids 1 to 360 of SEQ ID NO:2.

E1 Cont. *Sub G30* 609. (New) The polynucleotide of claim 608, wherein said nucleic acid encodes a polypeptide fragment capable of functioning as a functional domain within a DR5 extracellular domain to bind TRAIL.

610. (New) The polynucleotide of claim 608, wherein said nucleic acid encodes a polypeptide fragment which is capable of functioning as a functional domain within a mature DR5 polypeptide to induce apoptosis.

611. (New) The polynucleotide of claim 608, further comprising a heterologous polynucleotide.

620. (New) A host cell comprising the polynucleotide of claim 609.

621. (New) The host cell of claim 620, wherein said polynucleotide is operably associated with a heterologous regulatory sequence.

622. (New) A method of producing a polypeptide comprising culturing the host cell of claim 618 under conditions such that said polypeptide is expressed, and recovering said polypeptide, wherein said polypeptide binds an antibody with specificity for a polypeptide consisting of amino acids 1 to 360 of SEQ ID NO:2.

E1
cont

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